

Two Types of Growth: The Move West and the Move to the City

Description:

This activity explores U.S. population growth during the period of 1870 to 1900, the Age of Industrialization, examining it in terms of history and geography. The primary resources in this activity are two Census Bureau interactive data visualizations. Comparing the two data visualizations at different points in time shows the scale of population growth from 1790 to 1890 and the relationship between different types of growth (general area density and urban concentration).

Standard:

The Development of the Industrial United States (1870-1900) Standard 1:How the rise of corporations, heavy industry, and mechanized farming transformed the American people

Materials:

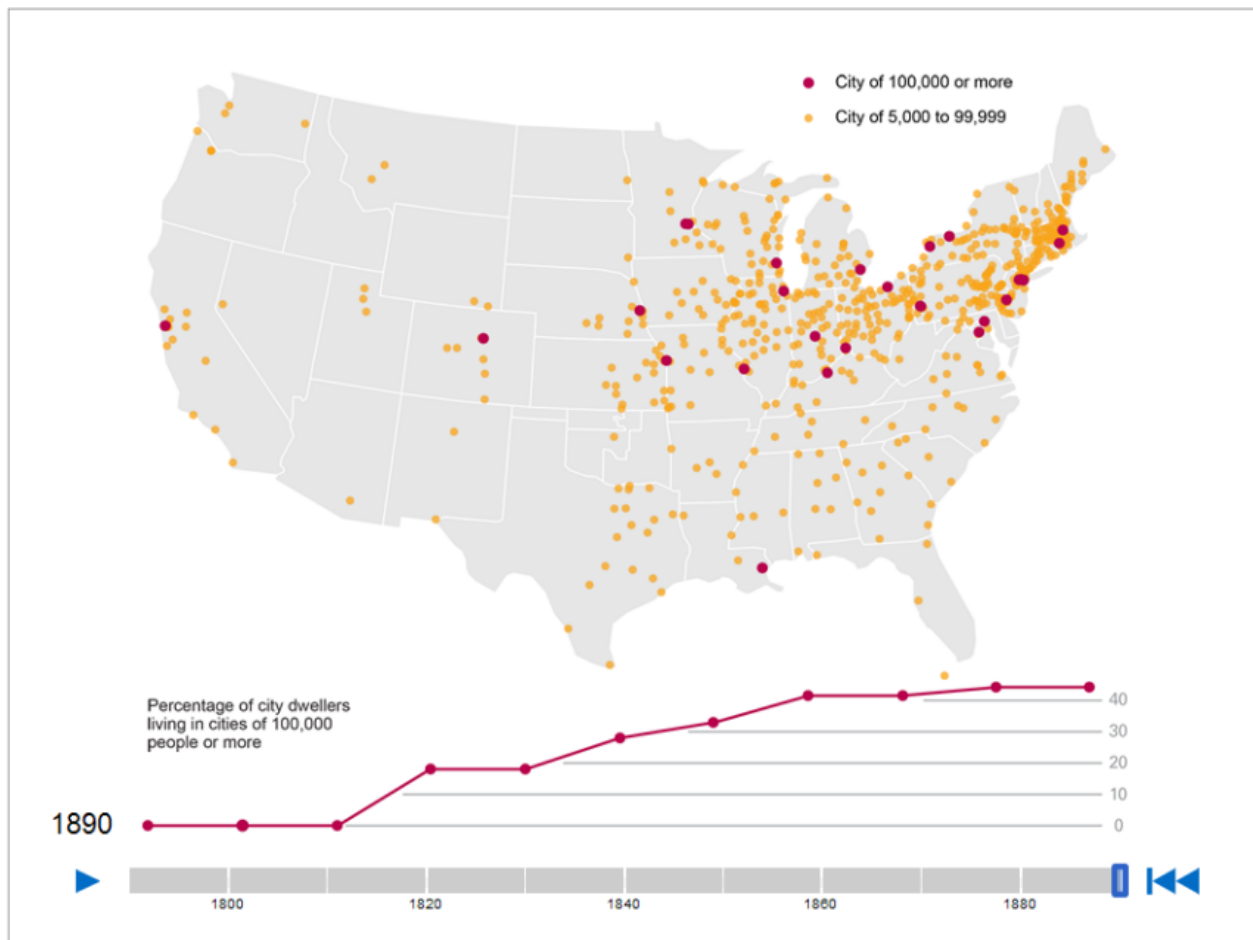
Increasing Urbanization Data Visualization

Physical Map of the Coterminous United States (<http://www.shadedrelief.com/physical/index.html>)

1790 City Population Map (https://www.census.gov/history/www/reference/maps/1790_population_map.html)



Activity Instructions for Students



In this activity, you will explore the tremendous growth of the nation from 1870 to 1900, also known as the age of industrialization. You will examine two interactive data visualizations that focus on two aspects of this period of growth: the westward movement of the frontier and the migration of people into cities. Before beginning the activity, review the key terms below.

Data visualization – refers to displaying data (information) graphically, such as in a map, chart, video, and so on. It makes data much easier to understand than a text-only presentation.

Physical geography map - shows the physical features of a particular area. This includes rivers, streams, mountains and valleys.

Political map - shows the boundaries of countries, states, and cities.

Thematic maps - also called a statistical map, this type of map is used to display a specific theme associated with a particular geographic area. These maps can display a wide range of physical, social, political, cultural, and economic characteristics.

Choropleth maps - a type of thematic map. Uses shading or colors to show different values

Darker colors usually represent greater values, while lighter colors usually represent smaller values.

Graduated symbol maps – a type of thematic map. A graduated symbol map uses symbols of different sizes to show different values. Larger symbols usually represent greater values.

Interactive map – allows the user to change the view of the map. Common changes include updates over time, zooming in and out, and adding or removing data layers.

The materials provided in this activity provide a number of different ways of looking at the move west and increasing urbanization of the United States in the late 1800s.

Activity Assessment

1. Use the “Following the Frontier Line” data visualization to answer the following questions.

- What kind of map does this data visualization use to convey information? How do you know?
- What do the different colors in this map signify?
- Click the “Selected Cities” box. Name a city that had at least 20 people per square mile in 1790.

a. This data visualization features a thematic map, more specifically, a choropleth map. You can tell the map is a choropleth map because it conveys different population density values through a gradation of colors.

b. Darker colors represent greater population density values, while lighter colors represent smaller population density values

c. Washington, Philadelphia, New York, or Boston. Note --look at the color around the dot marking the city location.

2. Use the “Increasing Urbanization” data visualization to answer the following questions.

- What kind of map does this data visualization use to convey information? How do you know?
- What do the different colored circles in this map signify?
- During which decade does the first city gain a population of at least 100,000? During which decade does the state of Illinois have a city with a population of at least 100,000? (Scroll along the timeline from decade to decade to answer these questions.)

a. This data visualization features a thematic map, more specifically, a graduated symbol. You can tell the map is a graduated symbol map because it conveys different city populations through symbols of different sizes (and sometimes colors).

b. In this data visualization, the larger circle (red) indicates cities with 100,000 or more people. The smaller circle (orange) indicates cities with 5,000 to 99,999 people.

c. The first city with a population of at least 100,000 appears on the map in 1820. Illinois cities with at least 100,000 people appear on the map in 1860.

3. Use the “Physical Map of the Coterminous United States” and the “1790 City Population Map” to respond to the following tasks and questions:

a. Locate and label the Atlantic Ocean, the Pacific Ocean, the Great Lakes, the Gulf of Mexico, the Ohio River, the Mississippi River, the Rocky Mountains, and the Appalachian Mountains. Indicate the general direction of Europe and Africa.

a. See attached physical map.

4. Set the “Following the Frontier Line” data visualization to 1790, right after the United States was formed.

- a. Where is the population concentrated? What might be one reason?
- b. How are colors used and the population density related?

a. On the east coast. Close to port cities where immigrants arrived/close to markets and jobs. East of the Appalachian Mountains because they were difficult to settle and difficult to cross.

b. The darker colored areas have more people per square mile.

5. Now continue to look at the “Following the Frontier Line” data visualization, setting the bar on the timeline at 1870 and compare that map to the 1790 map you looked at in question 4 above.

- a. List two major changes between 1790 and 1870.
- b. Click on “Selected Cities for 1870”. How does the shading vary around cities?
- c. Note the light shaded diagonal area on the 1870 map, generally between Pittsburgh and Atlanta. It may help to refer to the physical map of the U.S. What geographic feature could account for that less settled area? Why?

a. Many people moved west looking for jobs. More people settled in cities, usually also looking for jobs.

b. The cities are relatively dark (densely settled), surrounded by lighter shaded areas (less densely settled).

c. The Appalachian Mountains because they were less suited for dense development and they were difficult to cross.

6. Now examine the “Increasing Urbanization” data visualization, setting the bar on the timeline to 1790. Use the data visualization to answer the following questions.

- a. What do you notice about where the cities with populations between 5,000 and 99,999 are located? How many are there? How many cities with populations over 100,000 are there?

b. The map is divided into yellow and gray areas—the gray represents the extent of the U.S. (including territories) at the time. Look at the physical map of the U.S. Identify the geographic feature that separates the gray and yellow areas.

c. Between the map and the timeline is a line labeled “Percentage of city dwellers living in cities of 100,000 or more”. What was the percentage in 1790?

a. *They are all on the east (Atlantic) coast. Eight or nine (some overlap). None.*

b. *The Mississippi River (for the most part).*

c. *Zero percent.*

7. Now continue to look at the “Increasing Urbanization” data visualization, setting the sliding bar on the timeline at 1870, and compare that map to the 1790 map you looked at in question 6 above.

a. List two major changes between 1790 and 1870.

b. Identify the largest urban area on the east coast.

c. Look at the “Percentage of City Dwellers” chart. What is the percentage in 1870?

a. *Much more urbanized, especially in northeast and north central parts of the U.S. Many more cities over 100,000, also in the northeast and north central. Three cities over 100,000 appear outside the more urbanized part of the country: looks like St. Louis in the center, New Orleans in the south, and San Francisco on the west coast.*

b. *Looks like New York was the largest city in the U.S. in 1870 with a population of 942,000.*

c. *More than 40%. The rate of increase of percentage of city-dwellers living in cities of 100,000 people or more slowed to almost level between 1860 and 1870. This does not indicate that that percentage of city-dwellers in cities of population 100,000 or more did not continue to increase, but rather that the **rate** of increase flattened.*

8. Now that you have had the chance to explore several resources depicting the processes of migration and urbanization during the age of industrialization, you will draw some conclusions about what you have learned.

a. Do you consider the “Following the Frontier Line” data visualization or the “Increasing Urbanization” data visualization better at showing how the U.S. grew? Why?

b. Describe three factors that affected the growth and distribution of the U.S. population during this period.

a. *Students responses will vary, but should include some benefits and drawbacks of each of the data visualizations.*

b. *Jobs, location near resources, water, ports, good farmland, etc.*

Teacher's Notes

Learning Objectives

- Students will be able to explore several types of thematic maps, a line graph, and a timeline – and draw salient information and data from each.
- Students will be able to read and interpret different types of maps and charts and understand the value of each type.
- Students will be able to explain how geography affects growth and migration patterns.
- Students will recognize the amount of growth—westward and to the cities—that took place between 1870 and 1900, the age of industrialization.

Instructions for Teachers

This activity has students interact with two data visualizations:

Following the Frontier Line, 1790 to 1890

A map of the U.S. showing population density after each decennial census, with more populated areas more darkly shaded. The extent of the shading shows the extent of the U.S. frontier. By moving a bar on a timeline, you can select which year to view. There is an option to display a cities layer, but it is for reference only, and does not change from one year to another.

Increasing Urbanization—Population Distribution by City Size, 1790 to 1890

A map of the U.S. showing cities in two sizes, 5,000 to 99,999 people, and 100,000 people or more, after each decennial census. The two sizes are shown by different size circles, and for convenience the circles are two different colors. By moving a bar on a timeline, you can select which year to view. The cities are not labeled.

When the U.S. constitution was adopted in 1787, the boundaries of the United States were the Allegheny Mountains to the west, the St. Lawrence River to the north, and the Atlantic Ocean to the east and south.

The population in the original thirteen states grew rapidly, because of normal growth, and especially because of immigration, mostly from Europe. As the United States became more densely populated, people moved west in search of land, jobs, riches, adventure, or their own reasons.

Before this Activity

Review with students the following major points from this period in U.S. history. By 1870:

- Territorial expansion had reached the Pacific Ocean and included Alaska.
- The Civil War was over and Reconstruction continued to 1877.
- Canals and railroads had greatly improved the transportation network.
- Industry was on the rise and lead to improved agricultural production and factory mass production.
- Native Americans had generally been forced off their land and onto reservations.
- Immigration had continued, feeding the job market, and the growth of cities.

Walk students through all the activity resources: (1) the “Increasing Urbanization” data visualization, (2) the “Following the Frontier” data visualization, (3) the “Physical Map of the Coterminous United States and (4) the 1790 City Population Map.

During this Activity

Have students discuss or respond to the prompts in the “Activity Assessment” section. This can be done as a whole class, in small groups, or in written individual format.

After this Activity

Review students’ responses to the “Activity Assessment” prompts, addressing any misconceptions or mistakes as you review.

Review the major themes of the activity, incorporating feedback, examples, and data from students as you review.